Society Proceedings

AMERICAN NEUROLOGICAL ASSOCIATION

The Thirty-fourth Annual Meeting held at the College of Physicians of Philadelphia, May 20, 21 and 22, 1908.

The President, DR. CHARLES W. BURR, in the Chair

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Dr. H. H. Hoppe read a paper entitled: Localized Epileptic Convulsions without Gross Lesions of the Cortex of the Brain. (To be published in this journal.)

DISCUSSION

Dr. L. Pierce Clark said he was rather surprised to see the number of idiopathic cases that Dr. Hoppe reports dying of status hemiepilepticus. In studying temporary palsy in epilepsy in a series of cases at the Craig Colony in the 14 cases of this type independent of organic lesion, only one died. It is not an uncommon experience to see these patients with status hemiepilepticus have 10 or 15 status periods before finally dying. He has one patient whom he has had under watch for years, who has had 28 attacks of this sort. It was a common practice in the Colony as well as in his Randall's Island service in New York, not to notify the relatives of possible fatal outcome of status hemiepilepticus. The staff from experience knows, even though the status is very severe, the patient will not die. Dr. Clark said he had looked over the cases Dr. Hoppe mentioned from literature, and to his mind they were not without suspicion of being of an organic basis. There was one particular point in Dr. Clark's one case that came to autopsy, that was of special interest to him, a post mortem rise of 2° of temperature on the side that had been constantly convulsed was noted. He thinks nearly all cases of focal manifestations really come under the head of genuine epilepsies in spite of the fact that they have this focal type. Dr. Clark believes the microscopic evidence will show the condition of cell degeneration, possibly replacement gliosis. A maximum of intense change will show on some one spot. His idea is that the part of the brain entering into the convulsion is the focus of maximum change. However, in his case the entire cortex showed the changes that Dr. Prout and he thought to be characteristic of the anatomic pathology of the brain cortex in epilepsy. Dr. Clark stated that he now has under treatment 3 cases of Dr. Hoppe's type of genuine epilepsy with focal manifestations with no tendency to progression. In fact in 2 of them the disease has steadily improved independent of medication, the treatment being based entirely on hygienic lines. In the light of his pathologic findings Dr. Clark entirely agreed with Dr. Hoppe that operation in these cases is to be discouraged. He has seen several unsuccessfully operated cases in private practice and there are at least 6 or 7 more at Craig Colony. They are much less amenable to medical treatment after these operations. Two cases he had in mind were cases of this sort; the disease had been moderately progressive and operation was performed. For two or three weeks the patients remained free from attacks, then the attacks returned worse than before; some of the worst types of epilepsies at the Craig Colony were those idiopathic epilepsies with focal attacks where operation had been done. Dr. Clark thinks that the underlying pathology of these conditions will be found to be a chronic cellular degeneration of the cortex and secondary gliosis.

Dr. E. E. Southard said that the post mortem analysis of such cases as that of Dr. Hoppe's servant girl would under ideal conditions include careful bacteriology. This suggestion does not mean that the problem of idiopathic epilepsy can be solved by bacteriology alone. Nevertheless bacteria are found in the blood and tissues of man far more often than was formerly thought. Bacteriemia in non-febrile conditions requires careful investigation. A "cured" patient is sometimes sent from hospital with Bacillus mucosus capsulatus in the blood (See Duval and Lewis "General Septicemia," *Jour. Med. Research,* 13, 1905, p. 535). Internists are beginning to speak of "low grade sepsis" in these conditions.

At the Danvers Insane Hospital the problem of terminal infections has been attacked in a series of 100 cultures from cerebrospinal fluid and blood in autopsied cases. The fluids were positive in 75 instances, the bloods in 64 (read at the 1908 meeting of the American Medico-psychological Association, Cincinnati, and to be published shortly: Gay, Richards, and Southard). Bearing on the superior numbers of bacteria in the cerebrospinal fluid as against the blood, is the observation of Gay (to be published shortly in the *Proceedings of the Society for Experimental Biology*) that the cerebrospinal fluid of normal persons, whether in life or post mortem, fails to contain that substance, the alexin, which is essential in bacteriolysis.

In some cases with cultures from the mesenteric lymph nodes, in addition to blood and cerebrospinal fluid cultures, the nodes and fluid contained bacteria, whereas the blood was sterile. In one instance, the Bacillus coli communis was found in these relations, in another the Bacillus typhosus (read at American Association of Pathologists, 1908, Ann Arbor: "Typhoid Meningitis," Southard and Richards). The work of Ford Robertson with diphtheroid organisms in paretics perhaps belongs in this category. The relation of such findings to convulsions and crises in general paresis has yet to be worked out.

One practical point is that a single negative culture from the brain may not yield the required data. In one case of streptococcus meningitis, the pus at the vertex was sterile, that of the flanks of the brain showed a moderate number of organisms, and that of the base yielded tremendous numbers. Multiple cultures may be necessary (Southard and Stratton, "A Study of Acute Leptomeningitis (Streptococcus pyogenes)," *Jour. American Medical Association,* 1906).

Dr. W. G. Spiller said he had one case of status hemiepilepticus operated on about a year ago in which paralysis had developed on the side of the convulsions, probably as a result of exhaustion. The brain was exposed, nothing organic was discovered. The boy recovered from the operation and status hemiepilepticus, and has done very well since. The convulsions have been less frequent than they were previously.

Much more important is the point Dr. Hoppe has raised regarding operation where there have been no convulsions during many years, and when they developed were strictly confined to one side, sometimes to one limb. He did not refer to those cases where the convulsions begin in one limb and later implicate the whole body. If we are to be successful in removing brain tumors we must operate at an early stage. If we postpone operation until we can make a diagnosis that would be easy for a second or third year student, we shall not be successful in our operations. Dr. Spiller said he recalled several cases in which unilateral convulsions were the only important sign of brain tumors revealed by operation. It is Dr. Spiller's practice to recommend operation early when the surgeon is experienced in such operations. He said they had been very successful at the University Hospital in such cases, and find it wiser to expose the brain by an osteoplastic flap, in a doubtful case even if nothing abnormal be found. The flap is readily replaced and no damage is done.

Dr. B. Sachs stated that the question as to localized convulsions is very important. Distinction must be made from cases in which the patient is suffering from long continued form of epilepsy in which the individual attack begins in localized fashion. He thinks we see innumerable cases of that sort. No one would ascribe these cases to a recent lesion or one that we would consider operable, but even before the French observers that Dr. Clark mentioned, Dr. Sachs was one of the first to prove, taking a large number of cases of epilepsy, that a large percentage if traced back as to their clinical history will be found to be due to a lesion very early in life. There has been very satisfactory evidence on that point. Dr. Sachs thinks the diagnosis on the non-organic character of a focal epilepsy is a very difficult position to establish. For the present he thinks the safe plan to proceed upon is, that if there is a localized lesion there must be some circumscribed change in the brain. That change may, however, be of a microscopic character as we have also shown in some cases and it would not be evident if the patient were put on the operating table. But that there is some change either microscopic or macroscopic is a point we will have to maintain until there is very complete proof to the contrary. On the other hand, the only cases of focal epilepsy in which we are justified in urging operation, are those in which the focal epilepsy comes on in acute fashion, the person never having had attacks before. In spite of all this everyone of us has encountered cases of focal epilepsy coming on in acute fashion in which there were all the symptoms of a focal lesion, and yet when the operation was undertaken no focal lesions were found. The explanation of these cases is a very difficult one, unless we assume that the change is microscopic and not macroscopic. At one of the New York hospitals a number of years ago focal epilepsy was found in several cases of acute renal disorder, an operation was urged and one of the cases came to autopsy, and it was found that there was absolutely no lesion in the brain but there was acute renal disease. The only point Dr. Sachs insists on whenever called to advise in acute focal epilepsy is that we meet now and then with acute cases, particularly acute renal cases in which convulsive seizures occur of the focal type, not necessarily dependent upon gross organic lesion.

Dr. Putnam said the subject was very interesting to him, that he recognized entirely the importance of Dr. Clark, Dr. Sachs and Dr. Hoppe's views of the subject about the possibility of the focal lesion, but it seemed to him that it was possible to misunderstand, to state the method in rather an imperfect way. We have to deal possibly with a focal lesion, but more often with conditions not so much of maximal change at a given point, but of maximum irritability that has often been urged, but not too often. These cases we are all familiar with, not simply where the epilepsy begins in one part, but where it is confined to special attacks for a long period. There may be some peculiar disturbance of vision, or of sensation in one finger. One might suppose there were focal lesions, but more probably from what we know these disturbances simply represent areas of maximum irritability, and there may be no focal lesion. Two cases he has in mind compare strongly on that point, one of especial interest in connection with what Dr. Sachs has said, a case of a lady recovering from influenza of rather severe type who was not under his care, was getting well, sitting up and able to knit, when she was attacked suddenly with spasm involving first the hand alone, then in twenty minutes she had an attack involving the face with the hand, and then a final attack of hemiplegia, still without loss of consciousness, without paralysis a day or so, then she became hemiplegic and died. Dr. Putnam was present at the autopsy and made a very careful examination of the brain, microscopic and macroscopic. The whole brain was edematous and was doubtless the seat of lesions in a toxic sense, but they certainly were not focalized.

The other case was that of a young man who had a temporary hemiplegia, which came on during typhoid. The hemiplegia passed away, but was followed by seizures of this sort which were confined to the hand. He called them "rushes." Dr. Warren operated. A large area of the cortex larger than that covered by the trephine opening was the seat of a soft, velvety material, of an organized clot one might say, and a portion of it was excised. In the third case focal signs were present. A bone flap was laid back, the cortex appeared perfectly normal, and yet the hand was left weak simply from the exposure. The weakness passed away. There was no other disturbance from the operation.

Dr. F. X. Dercum, said that while the differentiation between cases of epilepsy beginning in an apparently limited manner and yet rapidly becoming diffuse, from cases clearly focal in character is often very difficult, the patient should even in doubtful cases be given such chance as surgical exploration may afford. Nowadays it is safe to make an osteoplastic resection, and although there are cases in which nothing is found, there are notwithstanding others in which something *is* found. Besides if our cases are carefully selected the percentage of failures will be comparatively small.

Dr. Wm. M. Leszynsky spoke of a young woman under his observation who entered the hospital for operation on the uterus. She recovered from this operation, and in the course of two weeks developed status hemiepilepticus which lasted four days. She made a complete recovery, but a week later began to have epileptic attacks involving the arm and face. These continued at brief intervals for three months and ultimately Dr. Frank Hartley operated on her and explored thoroughly the motor cortex, but no lesion was discovered. There was profuse hemorrhage from the pia, and the patient was completely hemiplegic for three or four days, but gradually recovered normal power. Subsequently the attacks of focal epilepsy returned.

Dr. C. K. Mills said that with regard to Jacksonian epilepsy and idiopathic epilepsy so-called, every neurologist knows that a species of Jacksonian epilepsy often occurs, so to speak, inside the general epileptic attack and it is of importance to be able to recognize this inside occurrence of Jacksonian attacks in deciding the question of operation. The reason for these focal epilepsies resides in the fact that a focus of irritation, some lesion, however minute, is present in the region of representation of the movements concerned in the spasm. This is by no means a new idea. It is as old as the early statements of the great man for whom this Jacksonian epilepsy has been named. He was the first to point out not only the general features of Jacksonian epilepsy, but to call our attention to the fact that in many cases of generalized epilepsy the initial symptom or some part of the disseminated spasmodic manifestation, assumed a focal type. Jacksonian epilepsy, like other forms, does occur in renal disease, and it may occur in any toxic or infectious disease. It is the duty of the neurologist by his close study of the history of the case and of all its special manifestations to separate cases of such causation from cases due to gross lesions of the motor cortex.

Dr. Patrick said he agreed with Dr. Hoppe that there are cases clinically not to be distinguished from idiopathic epilepsy presenting the purely Jacksonian type. There was a time when Dr. Patrick thought that whenever he had a patient with a Jacksonian fit there was a gross lesion. He doesn't believe it now. He has seen enough cases followed a sufficient number of years to convince him that there are cases of idiopathic epilepsy which show the initial irritability in a way to make them Jacksonian: not only such fits as Dr. Hoppe described, but the little fits, such as tingling and contraction of the fingers of one hand. One of these patients Dr. Patrick followed for at least 10 or 12 years and he has made a practical recovery. These cases should be kept away from the surgeon. They are much better off with what they have than with what they are likely to get on the surgical table.

Regarding Dr. Mills's quotation of Dr. Jackson, Dr. Patrick said he would like to go one step further. Two years ago in conversation Dr. Jackson had said, "Of course I don't quite approve the name Jacksonian epilepsy, but, using it, I would say that every epilepsy is a Jacksonian epilepsy. That is, in every case there is a zone or group of cells which begins the discharge and from that group of cells as a focus the irritation or discharge or whatever it may be spreads with greater or lesser rapidity to the adjoining and surrounding brain tissue or cells."

Dr. Patrick had never looked at it exactly in that light, but the more he has thought of it the more convinced is he that it is a reasonable hypothesis. Every explosion of epilepsy is to be regarded as something starting in certain cells. And he also is inclined to believe another idea of Jackson's, that ordinarily these discharges begin in the smallest cells. Then the reason we have so little of the Jacksonian type in idiopathic cases is because the Jacksonian fit is a manifestation from the largest cortical cells and not from the small cells which are ordinarily the most susceptible.

Dr. Hoppe said that he believed with Dr. Clark that in these cases of so-called idiopathic epilepsy we may, perhaps, in all the cases find microscopic change. He does not believe in cases similar to those described in his paper we will find such a gross lesion as meningo-encephalitis.

As to bacteriology, Dr. Hoppe thinks it plays a great role but that it does not explain the focal lesion or a status hemiepilepticus. It may explain the convulsive character of the case, but not the focal character of the case. As to early operation, he believes in the cases described by Dr. Spiller it is always justifiable, but these are not the cases he described in his paper.

Dr. Dercum called attention to the fundamental difference in the development of these cases between focal organic Jacksonian epilepsy and the idiopathic. In the cases Dr. Hoppe has described as idiopathic epilepsy the clinical picture was complete from the beginning. There is gradual progression in the majority of cases of organic focal epilepsy; whereas in idiopathic epilepsy the evolution and type of case is practically complete from the first attack. As to the statistics, up to 1899 the only statistics we had on resection of the cortex in idiopathic focal epilepsy were those by Matheolius, who said up to 1899 there was no case on record, in existence more than two years. Dr. Collins's case was on record the longest. The last statistics are by Nast-Kolb and they are very gratifying. He has collected 13 operations for focal idiopathic epilepsy and out of the 13 operations with resection of the cortex 5 have been well from 5 to 12 years. Dr. Hoppe stated that one man under his observation was free for eight years without any treatment whatsoever. There are some cases reported by Rasumowsky in which there has been entire freedom from convulsions and idiopathic epilepsy from 3 to 5 years. In gathering these statistics Dr. Hoppe has ruled out all traumatic cases and cases of resection of cortex where there was any evidence of organic lesion whatsoever.

SANE PROTOTYPES OF INSANE MENTAL PROCESSES.

By Theodore H. Kellogg, M.D.

Insanity is never a spontaneous mental variation but is always evolved on persistent lines of mental action. All insane mental processes have their correlative sane prototypes which have not been adequately studied. It is the object of this paper to traverse this promising field of psychic research, to juxtapose in comparison the insane mental processes with their sane prototypes in the following order, viz.:

I. Delusions of the sane as the causal prototypes of the false beliefs of the insane.

II. Extremes of conduct of the insane as uniformly modelled after sane exemplars.

III. Insane emotions, propensities, and impulses as directly derived from their sane prototypes.

IV. The hallucinations and illusions of the insane as a mere projection of the prototypic sensorial disorders of sanity.

Discussions.

Dr. H. R. Stedman said that tracing the analogy between the sane and insane states is always interesting and rather helpful. The only mental conditions which seemed to Dr. Stedman hard to trace are the perversions of instinct, such as the sexual perversions and the eating and drinking of loathsome things.

Dr. Carl D. Camp read a paper entitled: The Course of Sensory Impulses in the Spinal Cord. (To be published in this journal.)

Discussion.

Dr. Alfred R. Allen asked whether Dr. Camp considers there are any tactile fibers in Gowers's column, as held by some; also, whether he means that the axones and the cells forming Gowers's column contralateral to the starting point in the posterior horn, pass via the posterior commissure or the anterior white commissure.

Dr. Camp replied that he believes that there are no fibers conveying tactile sensations in Gowers's tract. As far as he could measure tactile sensation was tested with a pin.